FIG. 1

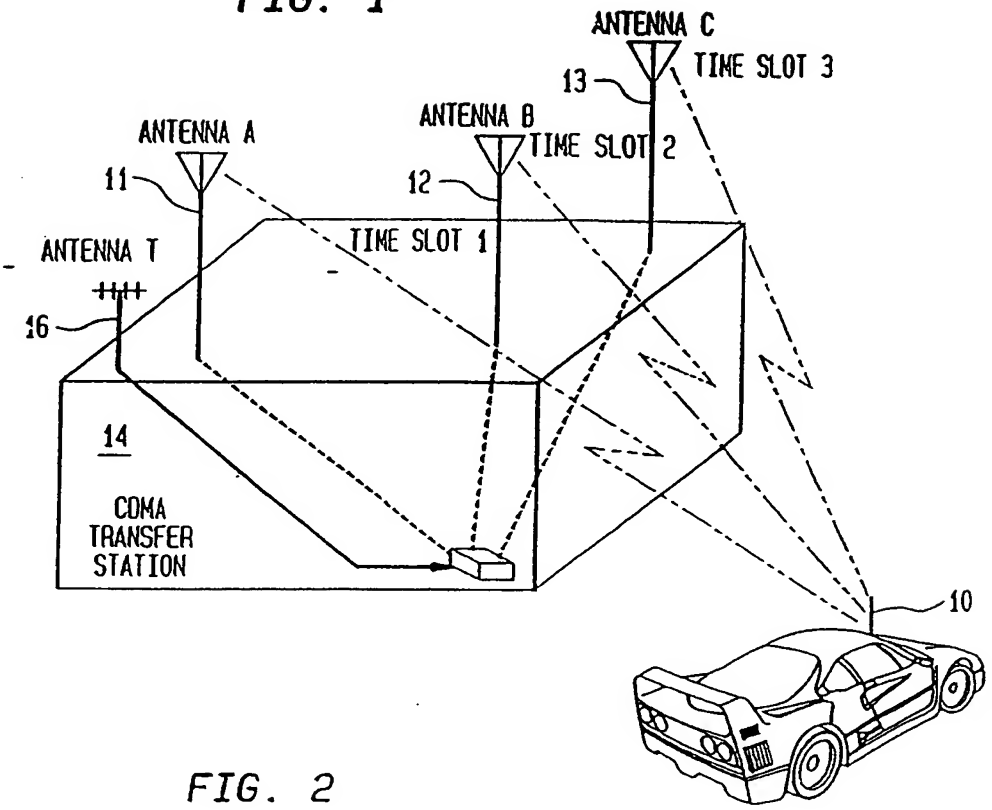

ANTENNA C
TIME SLOT 3
13
ANTENNA B
TIME SLOT 2
ANTENNA A
11
12
ANTENNA T
TIME SLOT 1
16
14
CDMA
TRANSFER
STATION
10

FIG. 2

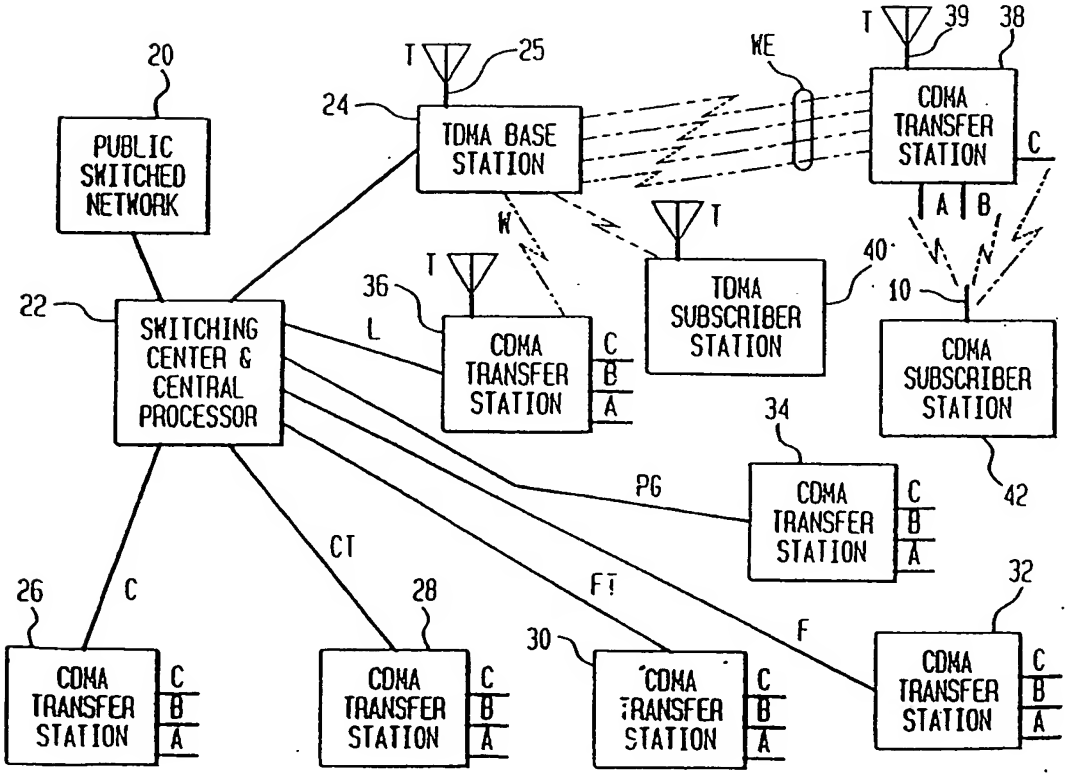

20
PUBLIC
SWITCHED
NETWORK
22
SWITCHING
CENTER &
CENTRAL
PROCESSOR
24
T
25
TDMA BASE
STATION
WE
T
39
38
CDMA
TRANSFER
STATION
C
A
B
W
T
40
TDMA
SUBSCRIBER
STATION
10
CDMA
SUBSCRIBER
STATION
42
36
T
L
CDMA
TRANSFER
STATION
C
B
A
34
PG
CDMA
TRANSFER
STATION
C
B
A
CT
FT
F
26
C
CDMA
TRANSFER
STATION
C
B
A
28
CDMA
TRANSFER
STATION
C
B
A
30
CDMA
TRANSFER
STATION
C
B
A
32
CDMA
TRANSFER
STATION
C
B
A

FIG. 3

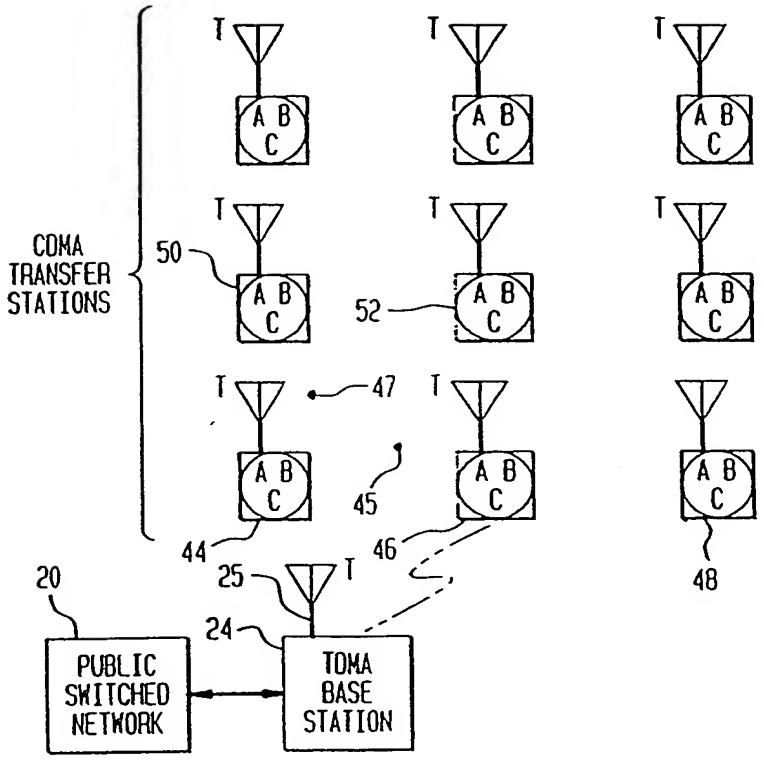

COMA
TRANSFER
STATIONS
50
52
47
45
44
46
48
20
25
24
PUBLIC
SWITCHED
NETWORK
TOMA
BASE
STATION
A B
C
T

FIG. 4

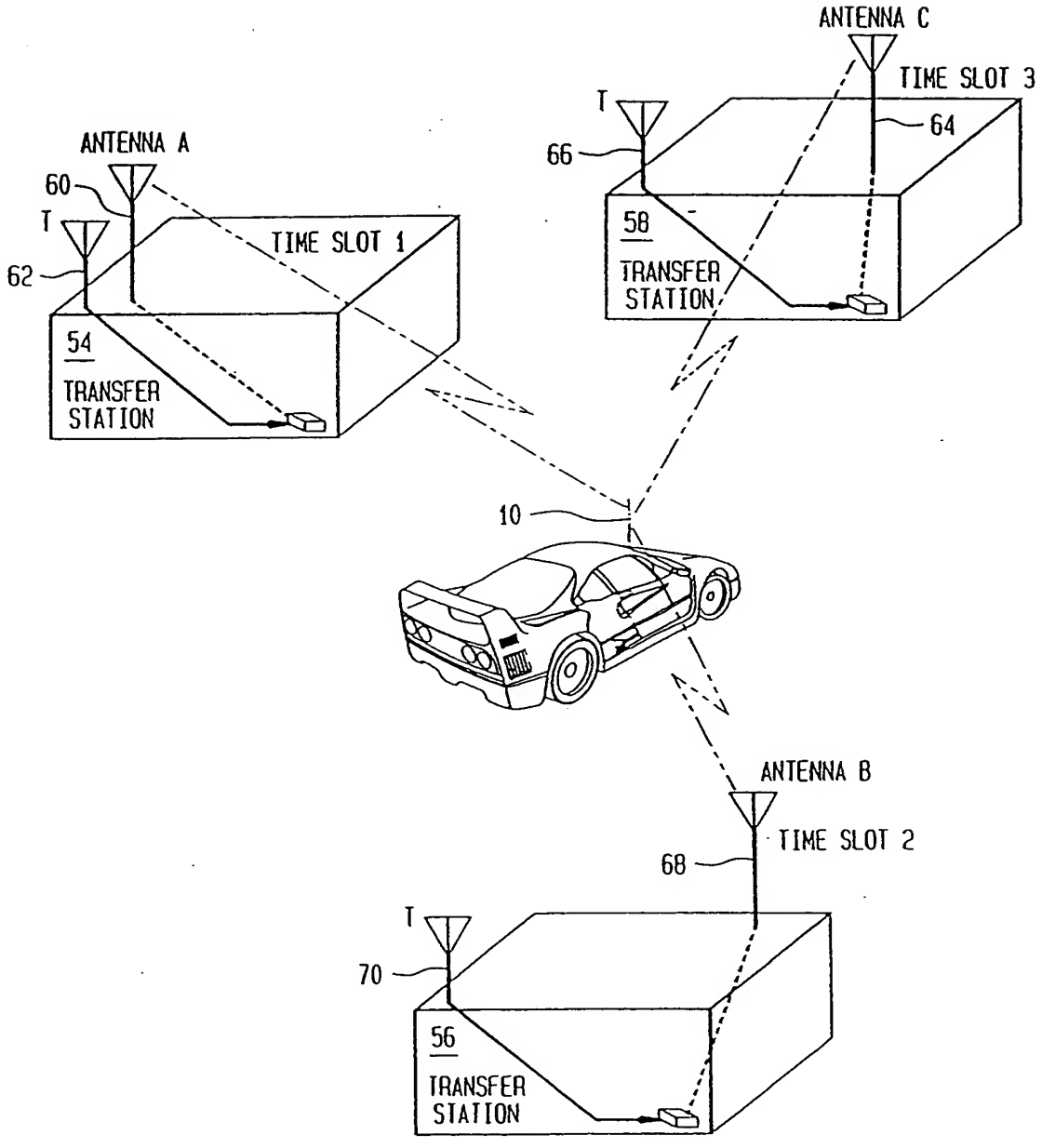

ANTENNA C
TIME SLOT 3
T
64
66
58
TRANSFER STATION
ANTENNA A
60
T
62
TIME SLOT 1
54
TRANSFER STATION
10
ANTENNA B
TIME SLOT 2
68
T
70
56
TRANSFER STATION

FIG. 5

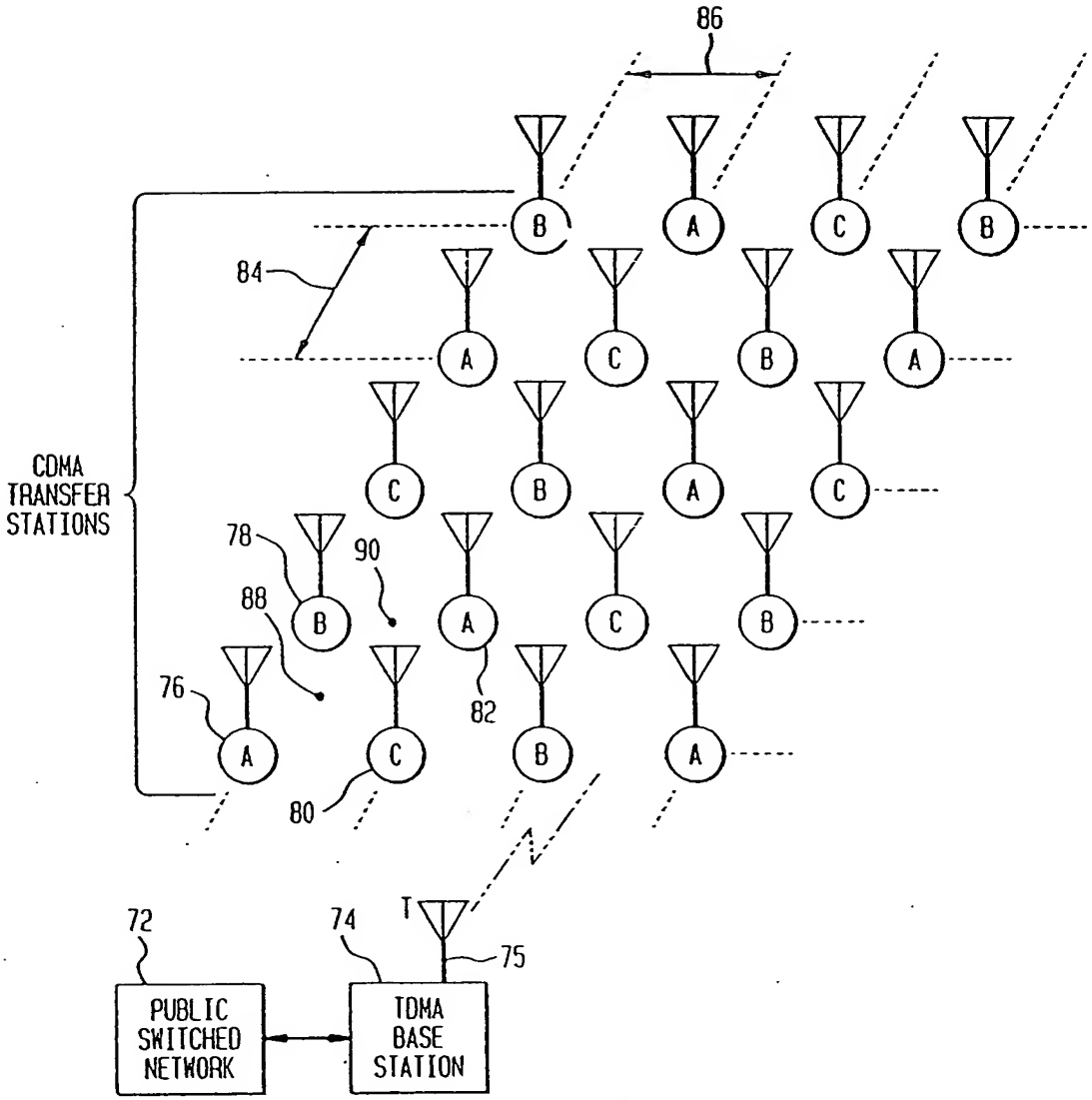

86
84
CDMA
TRANSFER
STATIONS
78
88
90
76
82
80
72
74
T
75
PUBLIC
SWITCHED
NETWORK
TDMA
BASE
STATION

FIG. 6

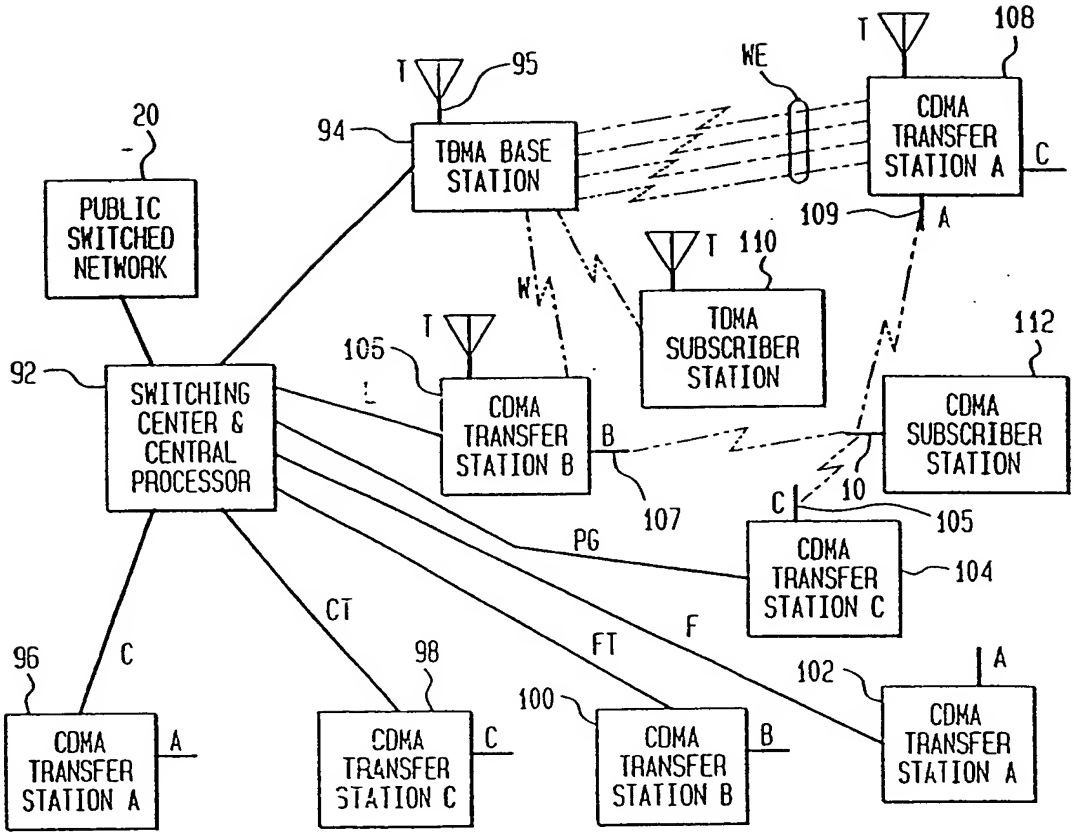

PUBLIC SWITCHED NETWORK
20
SWITCHING CENTER & CENTRAL PROCESSOR
92
TDMA BASE STATION
94
T
95
WE
T
108
CDMA TRANSFER STATION A
C
109
A
T 110
TDMA SUBSCRIBER STATION
W
T
105
CDMA TRANSFER STATION B
B
107
112
CDMA SUBSCRIBER STATION
10
C
105
CDMA TRANSFER STATION C
104
PG
CT
F
FT
96
C
98
102
A
100
CDMA TRANSFER STATION A
A
CDMA TRANSFER STATION C
C
CDMA TRANSFER STATION B
B
CDMA TRANSFER STATION A

FIG. 7

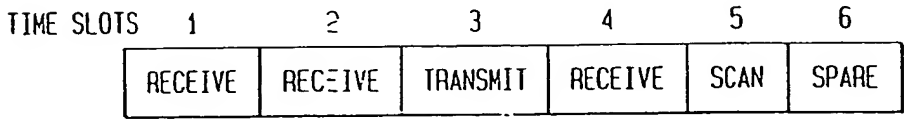

TIME SLOTS
1
2
3
4
5
6
RECEIVE
RECEIVE
TRANSMIT
RECEIVE
SCAN
SPARE

FIG. 8

TRANSFER STATION FORWARD CHANNEL

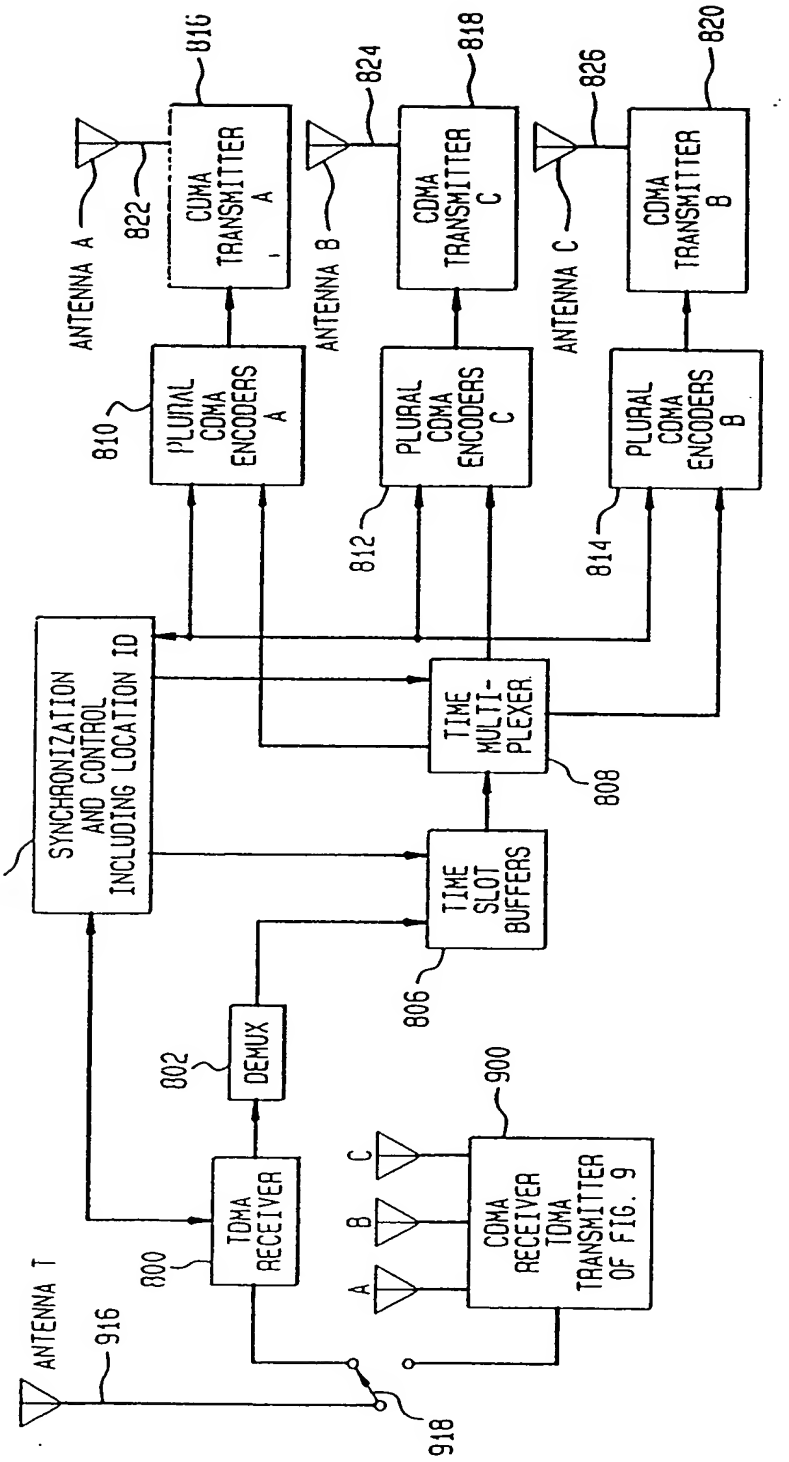


FIG. 9

TRANSFER STATION REVERSE CHANNEL

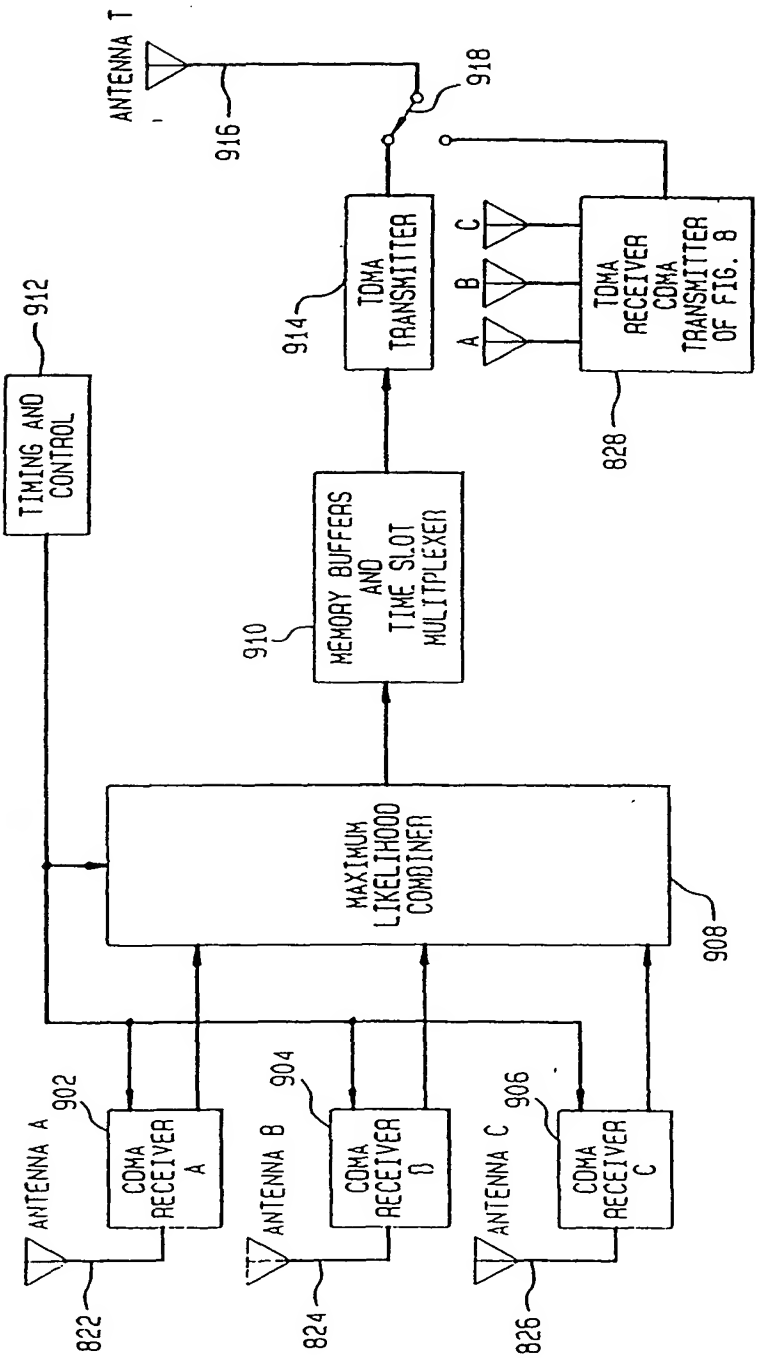


FIG. 10A

TRANSFER STATION COMA OUTPUT TO ANTENNAS (FORWARD CHANNEL)

TIME SLOTS	1	2	3	4	5	6	1	2
ANTENNA A	T_1	T_2	T_3	T_4	T_5	T_6	T_1	T_2
ANTENNA B	T_6	T_1	T_2	T_3	T_4	T_5	T_6	T_1
ANTENNA C	T_4	T_5	T_6	T_1	T_2	T_3	T_4	T_5

1002

TRANSFER STATION COMA INPUT FROM ANTENNAS (REVERSE CHANNEL)

TIME SLOTS	1	2	3	4	5	6	1	2
ANTENNA A	R_5	R_6	R_1	R_2	R_3	R_4	R_5	R_6
ANTENNA B	R_5	R_6	R_1	R_2	R_3	R_4	R_5	R_6
ANTENNA C	R_5	R_6	R_1	R_2	R_3	R_4	R_5	R_6

1004

T_X = TRANSMITTER CHANNEL X R_X = RECEIVER CHANNEL X

FIG. 10B

TRANSFER STATION COMA OUTPUT TO ANTENNAS (FORWARD CHANNEL)

TIME SLOTS	1	2	3	4	5	6	1	2
ANTENNA A	$T_{1,7}$	$T_{2,8}$	$T_{3,9}$	$T_{4,10}$	$T_{5,11}$	$T_{6,12}$	$T_{1,7}$	$T_{2,8}$
ANTENNA B	$T_{6,12}$	$T_{1,7}$	$T_{2,8}$	$T_{3,9}$	$T_{4,10}$	$T_{5,11}$	$T_{6,12}$	$T_{1,7}$
ANTENNA C	$T_{4,10}$	$T_{5,11}$	$T_{6,12}$	$T_{1,7}$	$T_{2,8}$	$T_{3,9}$	$T_{4,10}$	$T_{5,11}$

1006

TRANSFER STATION COMA INPUT FROM ANTENNAS (REVERSE CHANNEL)

TIME SLOTS	1	2	3	4	5	6	1	2
ANTENNA A	$R_{5,11}$	$R_{6,12}$	$R_{1,7}$	$R_{2,8}$	$R_{3,9}$	$R_{4,10}$	$R_{5,11}$	$R_{6,12}$
ANTENNA B	$R_{5,11}$	$R_{6,12}$	$R_{1,7}$	$R_{2,8}$	$R_{3,9}$	$R_{4,10}$	$R_{5,11}$	$R_{6,12}$
ANTENNA C	$R_{5,11}$	$R_{6,12}$	$R_{1,7}$	$R_{2,8}$	$R_{3,9}$	$R_{4,10}$	$R_{5,11}$	$R_{6,12}$

1008

T_X = TRANSMITTER CHANNEL X R_X = RECEIVER CHANNEL X

$T_{X,Y}$ = TRANSMITTER CHANNELS X AND Y $R_{X,Y}$ = RECEIVER CHANNELS X AND Y

FIG. 11A

TRANSFER STATION COMA OUTPUT TO ANTENNAS (FORWARD CHANNEL)

TIME SLOTS

	1	2	3	4	5	6	1	2	
ANTENNA A	T_1	T_2	T_3	T_4	T_5	T_6	T_1	T_2	
	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_7	T_8	1102
	T_{13}	T_{14}	T_{15}	T_{16}	T_{17}	T_{18}	T_{13}	T_{14}	
	T_{19}	T_{20}	T_{21}	T_{22}	T_{23}	T_{24}	T_{19}	T_{20}	

TIME SLOTS

	1	2	3	4	5	6	1	2	
ANTENNA B	T_6	T_1	T_2	T_3	T_4	T_5	T_6	T_1	
	T_{12}	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_7	1104
	T_{18}	T_{13}	T_{14}	T_{15}	T_{16}	T_{17}	T_{18}	T_{13}	
	T_{24}	T_{19}	T_{20}	T_{21}	T_{22}	T_{23}	T_{24}	T_{19}	

TIME SLOTS

	1	2	3	4	5	6	1	2	
ANTENNA C	T_4	T_5	T_6	T_1	T_2	T_3	T_4	T_5	
	T_{10}	T_{11}	T_{12}	T_7	T_8	T_9	T_{10}	T_{11}	1106
	T_{16}	T_{17}	T_{18}	T_{13}	T_{14}	T_{15}	T_{16}	T_{17}	
	T_{22}	T_{23}	T_{24}	T_{19}	T_{20}	T_{21}	T_{22}	T_{23}	

FIG. 11B

TRANSFER STATION COMA INPUT FROM ANTENNAS (REVERSE CHANNEL)

ANTENNA A, ANTENNA B AND ANTENNA C HAVE IDENTICAL TIME SLOTTING

1	2	3	4	5	6	1	2	
R_5	R_6	R_1	R_2	R_3	R_4	R_5	R_6	
R_{11}	R_{12}	R_7	R_8	R_9	R_{10}	R_{11}	R_{12}	1108
R_{17}	R_{18}	R_{13}	R_{14}	R_{15}	R_{16}	R_{17}	R_{18}	
R_{23}	R_{24}	R_{19}	R_{20}	R_{21}	R_{22}	R_{23}	R_{24}	

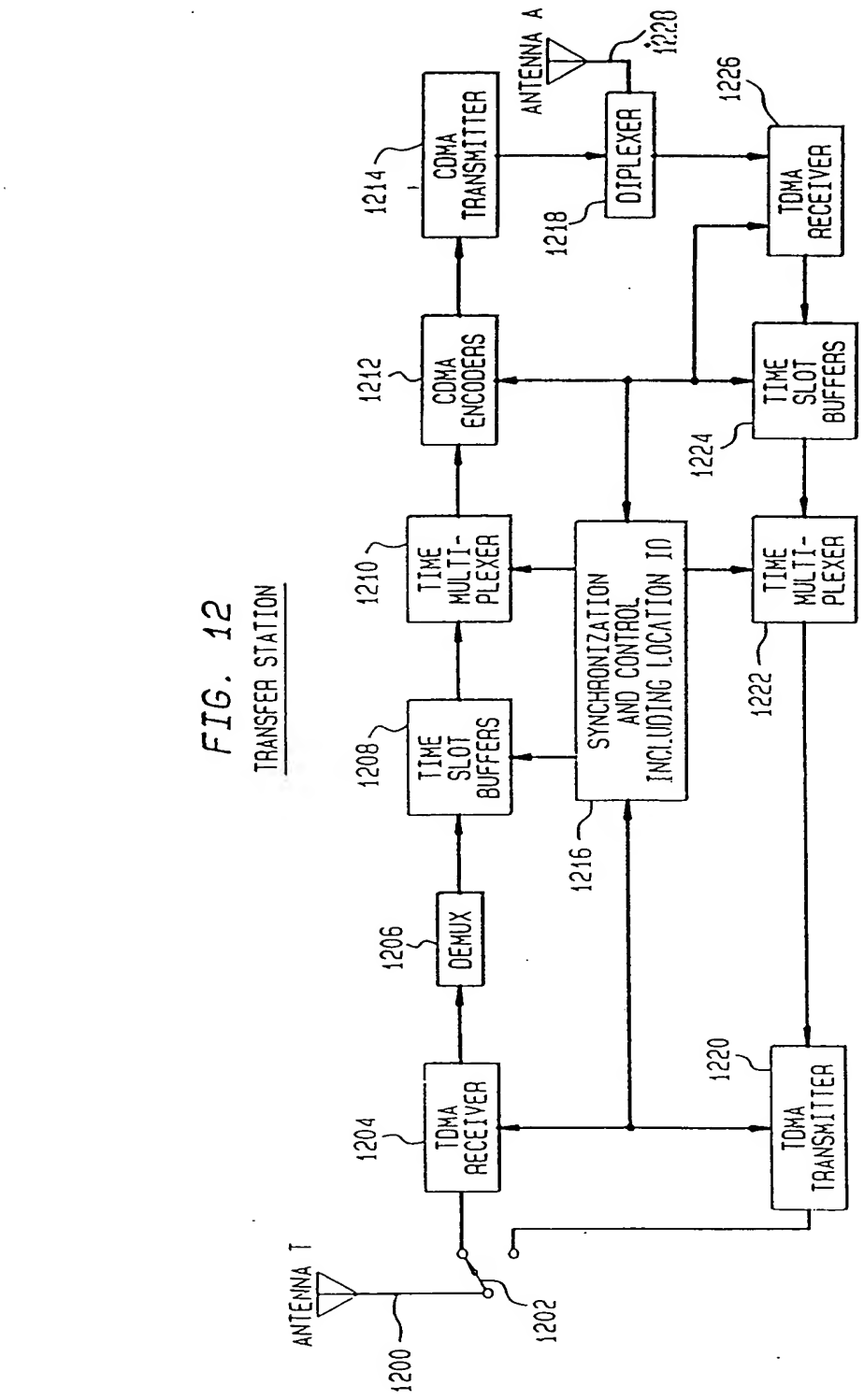


FIG. 12
TRANSFER STATION

FIG. 13

SUBSCRIBER STATION

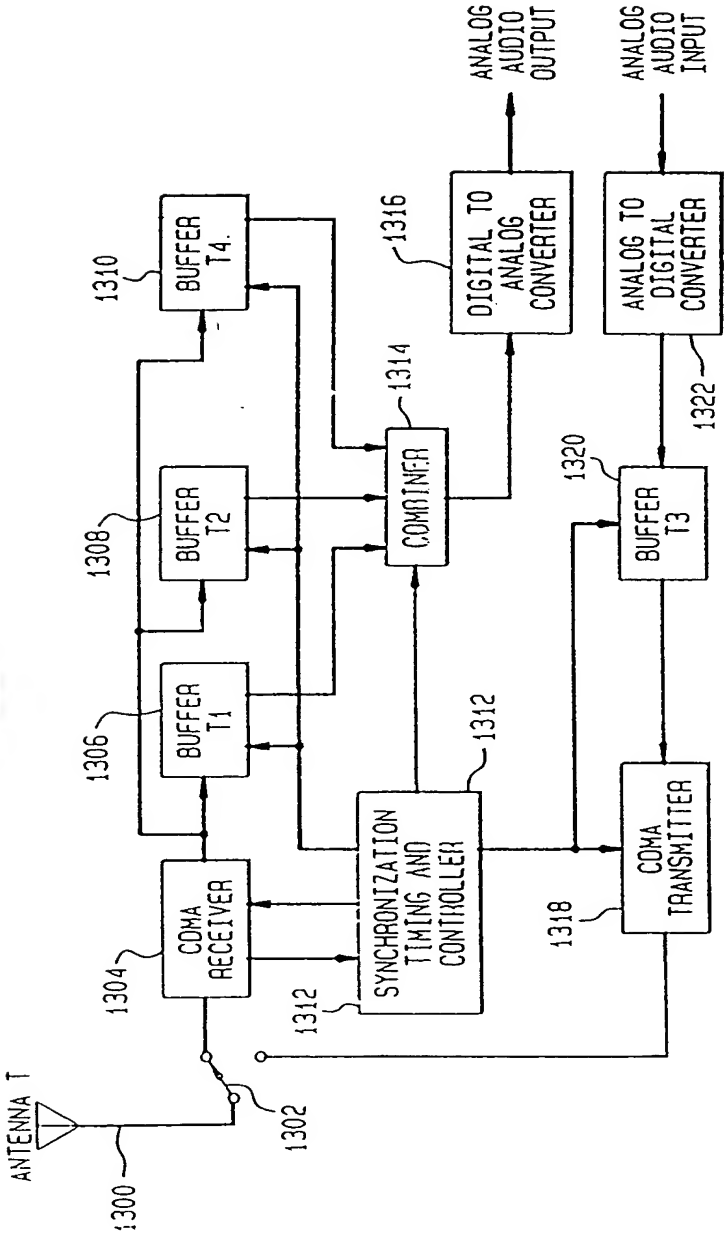


FIG. 14

CENTRALIZED AND INTEGRATED TRANSFER STATION

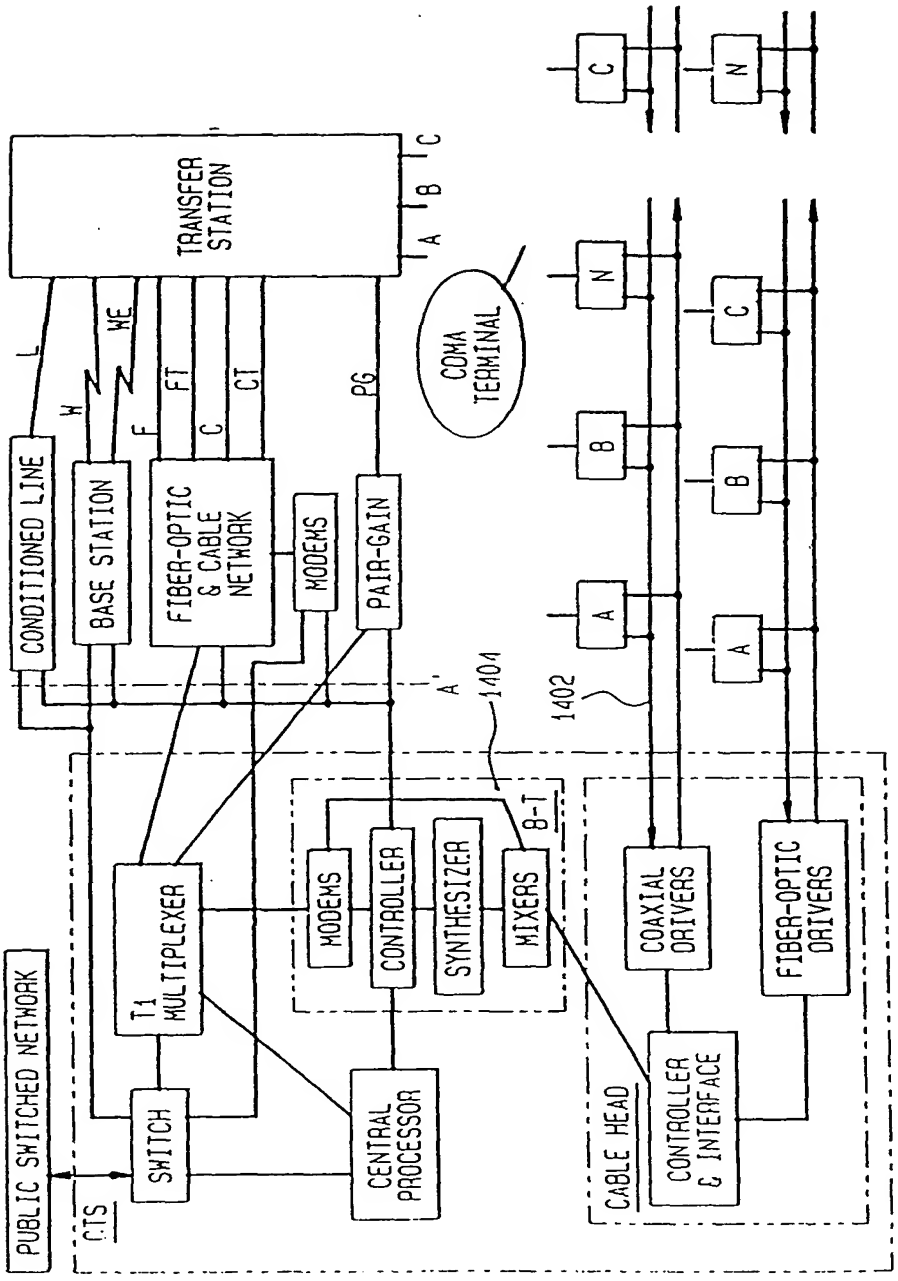


FIG. 15

TRANSFER STATION ANTENNA IMPLEMENTATION

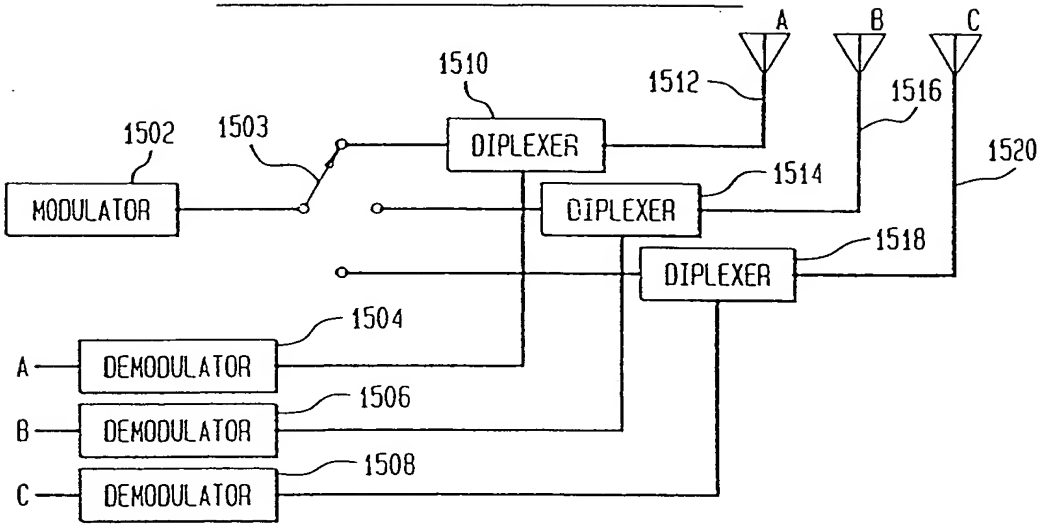


FIG. 16

DISTRIBUTED ANTENNA IMPLEMENTATION USING CABLE OR FIBER-OPTIC CABLE

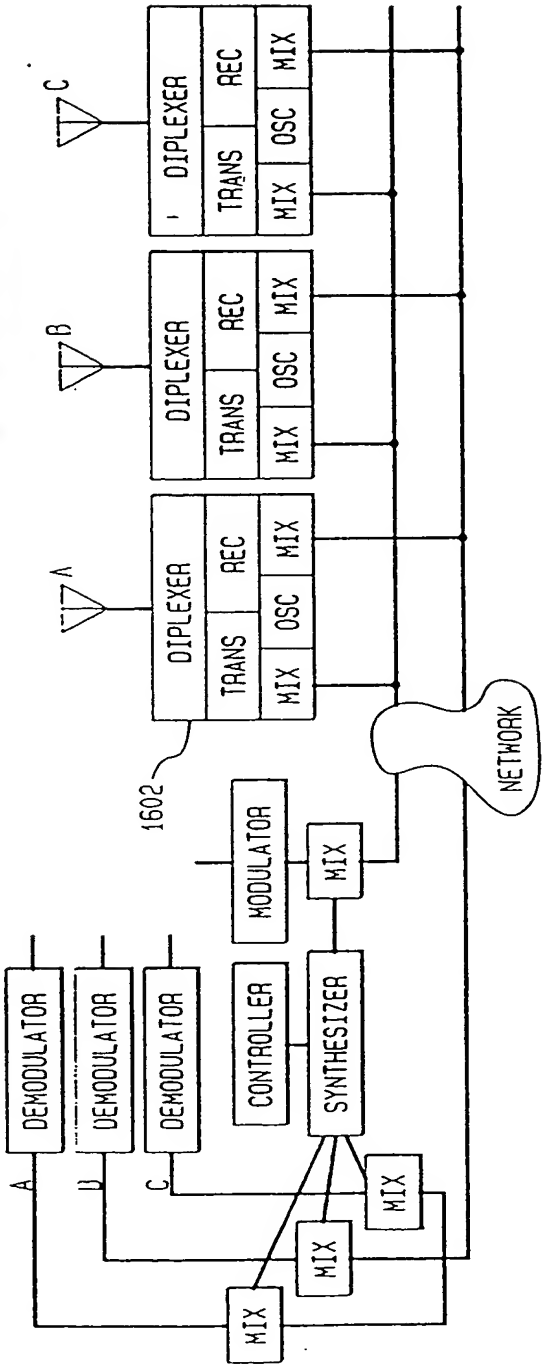


FIG. 17

SYNCH AND CONTROL CHANNEL STRUCTURE

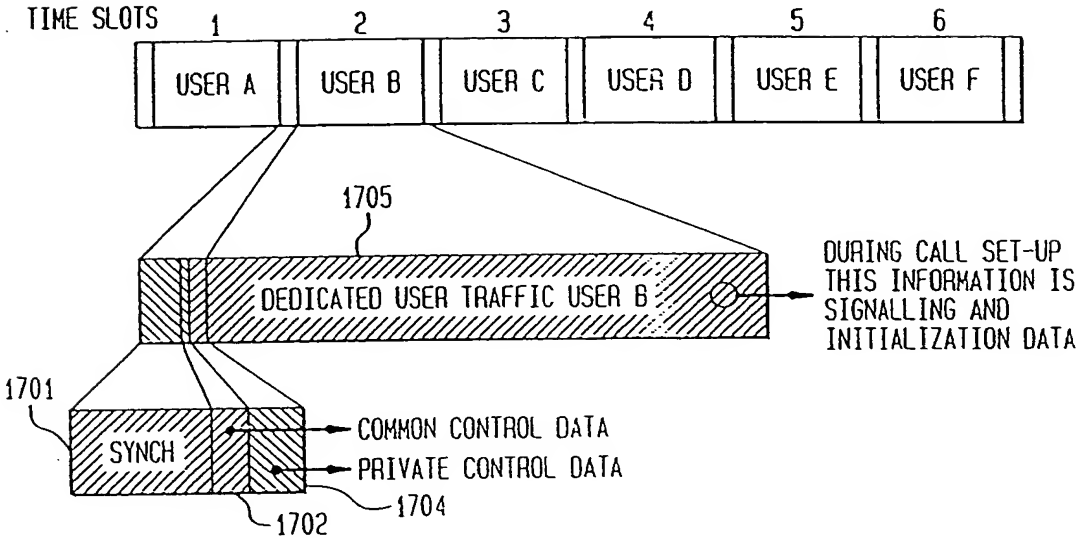


FIG. 18

TIME CALIBRATION FOR DISTRIBUTED ANTENNA IMPLEMENTATION

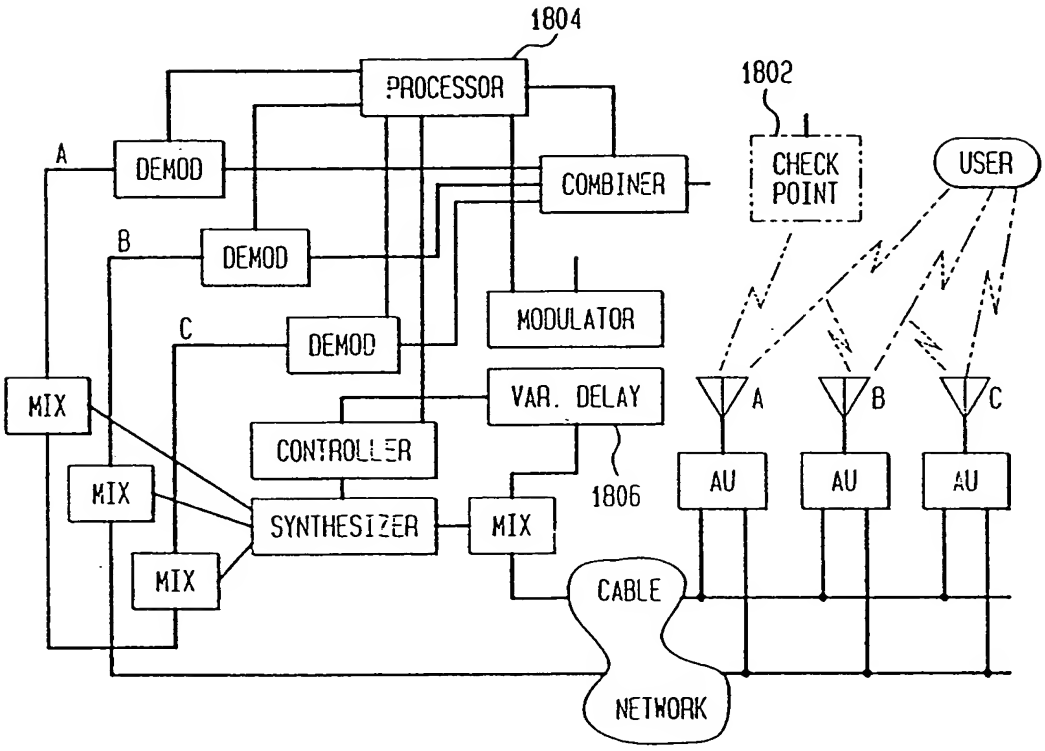


FIG. 19

LOCATION CENTER EXTERNAL TO COMMUNICAITON SYSTEM

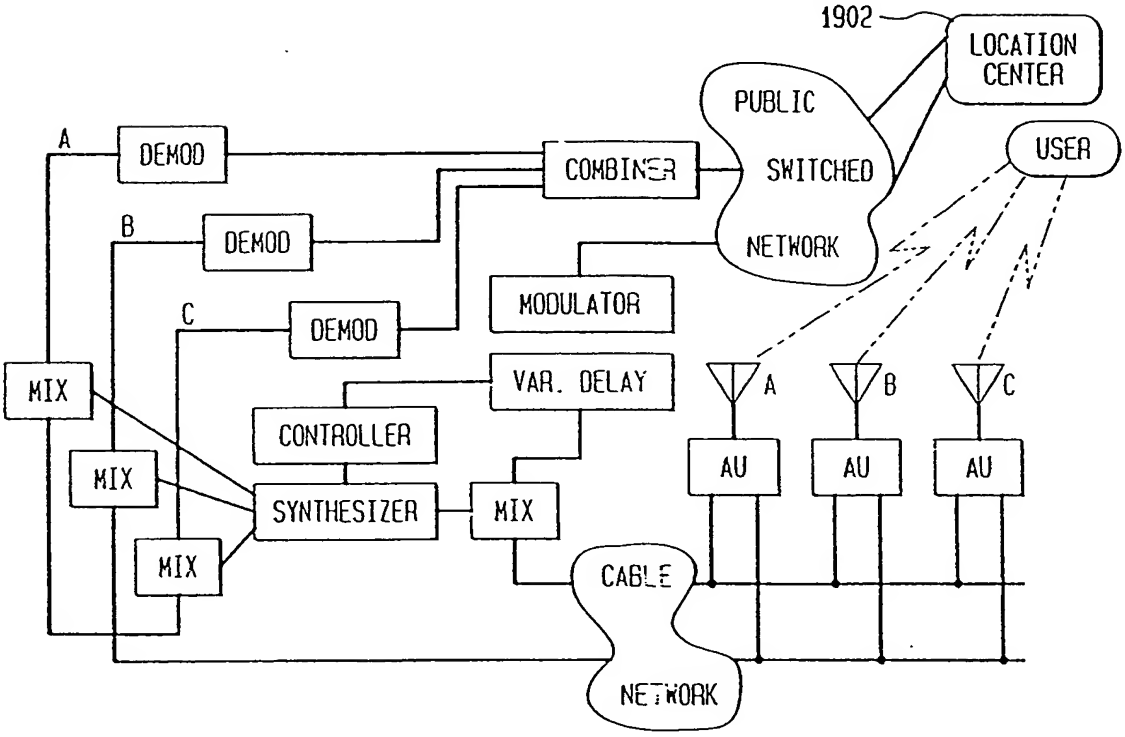


FIG. 20

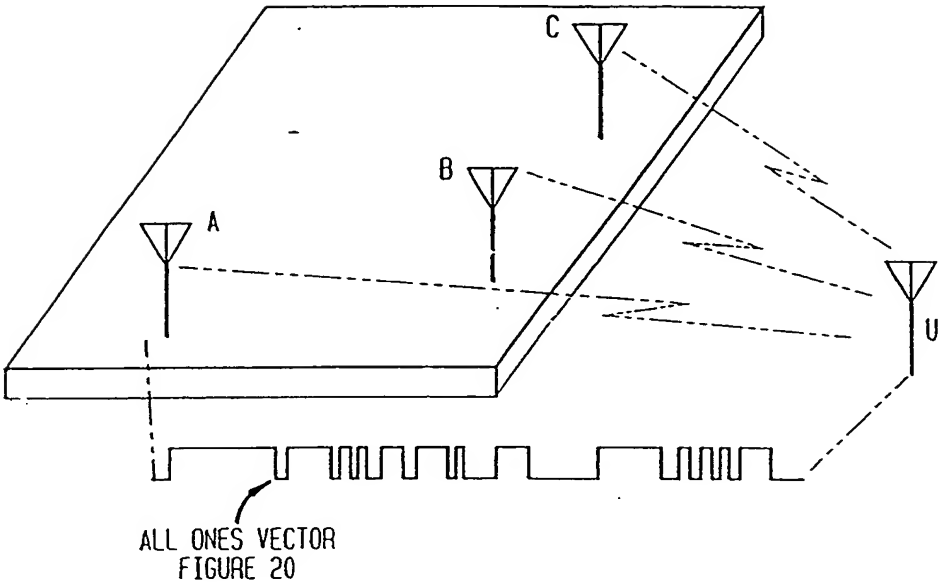

C
B
A
U
ALL ONES VECTOR
FIGURE 20

FIG. 21

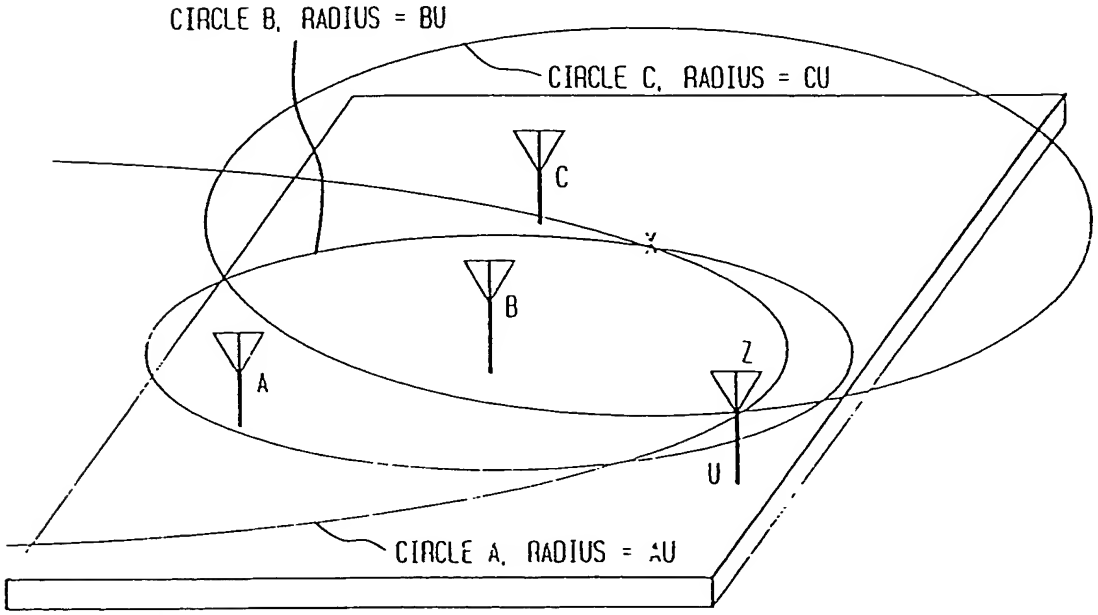

CIRCLE B, RADIUS = BU
CIRCLE C, RADIUS = CU
C
B
A
Z
U
CIRCLE A, RADIUS = AU

FIG. 22

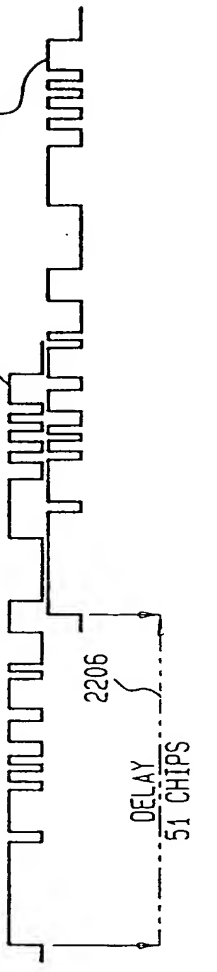
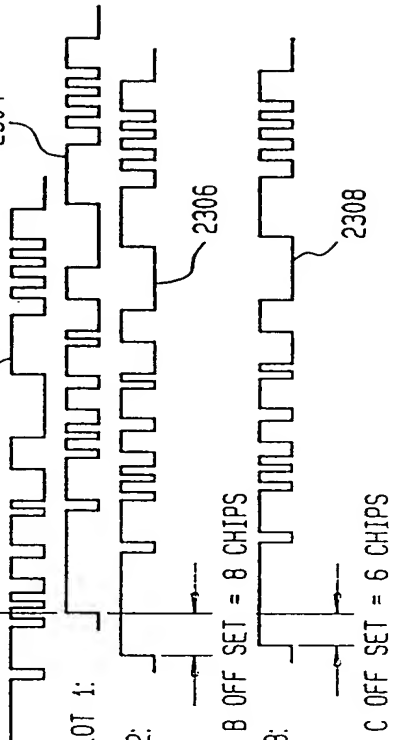

2204
2202
2206
DELAY
51 CHIPS
TRANSMITTED AT A:
RECEIVED AT A:

FIG. 23


2304
2302
2306
2308
RANGE = 25.5 CHIPS
TRANSMITTED AT A:
RECEIVED AT U DURING TIME SLOT 1:
RECEIVED AT U DURING TIME SLOT 2:
B OFF SET = 8 CHIPS
RECEIVED AT U DURING TIME SLOT 3:
C OFF SET = 6 CHIPS